

## Abstract of the Disclosure

**[0052]** A second stage pressure reducer for two-stage scuba regulators, comprising gas supply chamber; an elastic diaphragm; an inlet, connected to the gas supply chamber through an orifice; a tubular element, conveying breathing gas from the orifice to the gas supply chamber; a poppet stem, housed inside the tubular element; a poppet seat, affixed to the poppet stem and causing the orifice to open or close; a poppet spring, causing the poppet stem to slide; centering tabs, protruding from the poppet stem and maintaining the poppet stem in a constant axial position and further allowing the poppet stem to slide axially; a guide system for preventing axial rotation of the poppet stem but not axial sliding; and a demand lever, causing translations of the poppet stem as a consequence of diaphragm movements. The guide system may be a system of grooves, rails or a combination thereof.